DIVISION 15 - MECHANICAL

SECTION 15120

VALVES, FITTINGS AND MISCELLANEOUS PIPE ACCESSORIES

PART 1 - GENERAL

1.1 DESCRIPTION

A. This section of the specification defines the class, type, pressure and materials that will be required for the various valves and accessories. The Contractor shall furnish, install, paint, test and adjust all valves and other miscellaneous equipment, including all auxiliary equipment and devices such as handwheels, position indicators, valve boxes, extension stems, stem guides, gasketing and accessories and appurtenances as shown, specified.

1.2 SUBMITTALS

A. Submit seven copies of shop drawings and Operation and Maintenance Manuals for each valve.

PART 2 – PRODUCTS

2.1 PLUG VALVES

A. Plug valves, actuators and accessories shall be DeZurik or equal approved by the Engineer. Valves shall be of the non-lubricated eccentric type with resilient faced plugs and shall be furnished Flanged connections as shown on the plans. Flanged valves shall be faced and drilled to the ANSI 125/150 lb. standard.

B. Valve bodies shall be of ASTM A-126, Class B cast iron in compliance with AWWA Standard C-507, Section 3.2, Paragraph 1. All exposed nuts, bolts, springs, washers, etc. shall be stainless steel. Resilient plug facing shall be of neoprene, suitable for use with leachate. The plug shall be of one piece construction and shall be capable of withstanding the full pressure rating of the valve without use of structural ribs that extend beyond the profile of the plug.

C. Valves shall be furnished with corrosion resistant seats of a nonferrous metal which complies with AWWA Standard C-507, Section 3.2, Paragraph 3.

D. Valves shall be furnished with replaceable, sleeve-type stainless steel or bronze bearings in the upper and lower journals. These bearings shall comply with AWWA

Standard C-507, Section 3.2, Paragraph 4.

E. Valve shaft seals shall comply with AWWA Standard C-504, Section 3.2, Paragraph 6. All valves shall be of the pull down type and be adjustable and repackable without any disassembly of the valve or actuator. The valve must be capable of being repacked while under pressure with the plug in the open position.

F. Valve pressure ratings shall be as follows and shall be established by hydrostatic tests as specified by ANSI Standard B16-1967. Pressure ratings shall be 175 psi for valves through 12". Valves shall be capable of providing drip-tight, shut-off up to the full ratings with pressure in either direction.

G. All valves shall be mounted with the plug in the horizontal and the plug shall be in the upper quadrant when open. Where possible, the seat end of the valve shall be closest to the equipment that the valve isolates.

I. Interior vault plug valves shall have hand-wheel actuators.

2.2 PUMP STATION VALVES

A. The pump station ball valves and check valves shall be supplied by the pump station manufacturer as specified in Section 11310.

2.3 GATE VALVES

A. Gate valves shall be resilient seat wedge gate valves shall conform to AWWA C-509. Resilient seat wedge gate valves shall be U.S. Pipe Metroseal 250, Mueller or equal.

2.4 AIR/VACUUM RELIEF VALVE

A. The sewage air vacuum relief valve shall be of a 90-degree elbow body configuration by Apco as called out on the plan and specified in Section 02533 Force Main paragraph 2.1.B.2 or equal product by Vento-Mat, or equal. The valve manufacturer shall certify with shop drawing submittals that all components of the valve in contact with leachate shall be corrosion resistant and suitable for contact with landfill leachate.

2.5 SADDLESTANDS

A. Saddle stands may be used in lieu of brick piers. Saddle stands shall be of the adjustable type. Each stand shall consist of a length of wrought pipe fitted at the base with a standard screw threaded cast iron flange and at the top with an adjustable saddle or roll. The base flanges shall be bolted to the floor or foundation.

2.6 CLAMPING DEVICES FOR VALVES AND FITTINGS

A. Clamping devices for valves and fittings may be required by the Owner or Engineer as deemed necessary in the field. Rodding devices shall be as manufactured by Astral Corporation, Uni-Flange Corporation or equal.

2.7 PVC BALL VALVES

B. PVC ball valves shall be as specified in Section 02533 Force Main paragraph 2.1.B.1.

2.8 LINK SEALS

C. Provide a Link Seal by Thunderline Corporation or equal at all pipe wall penetrations.

2.9 PRESSURE GAGES

A. Pressure gauges shall be stainless steel by Ashcroft or equal from 0 to 80 psi. Furnish an isolation valve and diaphragm with each gage as manufactured by WIKA Type 990.10.510 SS, PF,V1 with glycerol system fill or equal.

2.10 STAINLESS STEEL BALL VALVES

A. Stainless steel ball valves ½" to 2" if required shall be per ASTM A276 GR316 of ASTM A351 GR CF8M stainless steel body, type 316 stainless steel balls, three-piece type, screwed ends, rated 1,000 pound WOG, with seat, body seal, and stem packing reinforced PTFE, lever operator by Milwaukee, BA370, Walworth Figure 597 or equal.

PART 3 – EXECUTION

1. VALVE INSTALLATION

A. The valves shall be installed by the Contractor. In cases where the valves are connected to existing piping, the Contractor shall cut the existing piping and reinstall new piping equal to the existing piping to fit the valves in the existing piping. Pipe installation shall be in accordance with Sections 02533 and 15500. Pressure test all new piping. The Contractor shall adequately support the new valves and piping.

END OF SECTION